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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,083	10/11/2005	Takuma Hojo	SHIGA7.029APC	2712

20995 7590 10/15/2008  
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EXAMINER
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HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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10/15/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/553,083	<b>Applicant(s)</b> HOJO ET AL.	
	<b>Examiner</b> Cynthia Hamilton	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6-11 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-11 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/16/8</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claim 17 IS objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In claim 17 said component A is a mixture of a polymer and a copolymer, but in claim 1 upon which claim 17 depends through claim 16 identifies said resin component (A) as "...is a polymer...". The use of "is" indicates a group of choices for the resin component (A) and can be considered closed language as in "R is a, b c or d". By adding to what said resin component (A) can contain, i.e. the polymer and copolymer of claim 17, the scope of claim 1 is broadened, thus objected to. A rejection of claims follows if applicants have instead used confusing language with respect to "...is a polymer..." in claim 1. Applicants need to consider either adding another component in claim 17 instead of adding to the said resin component (A) or changing the manner of claiming said resin component (A) in claim 1.

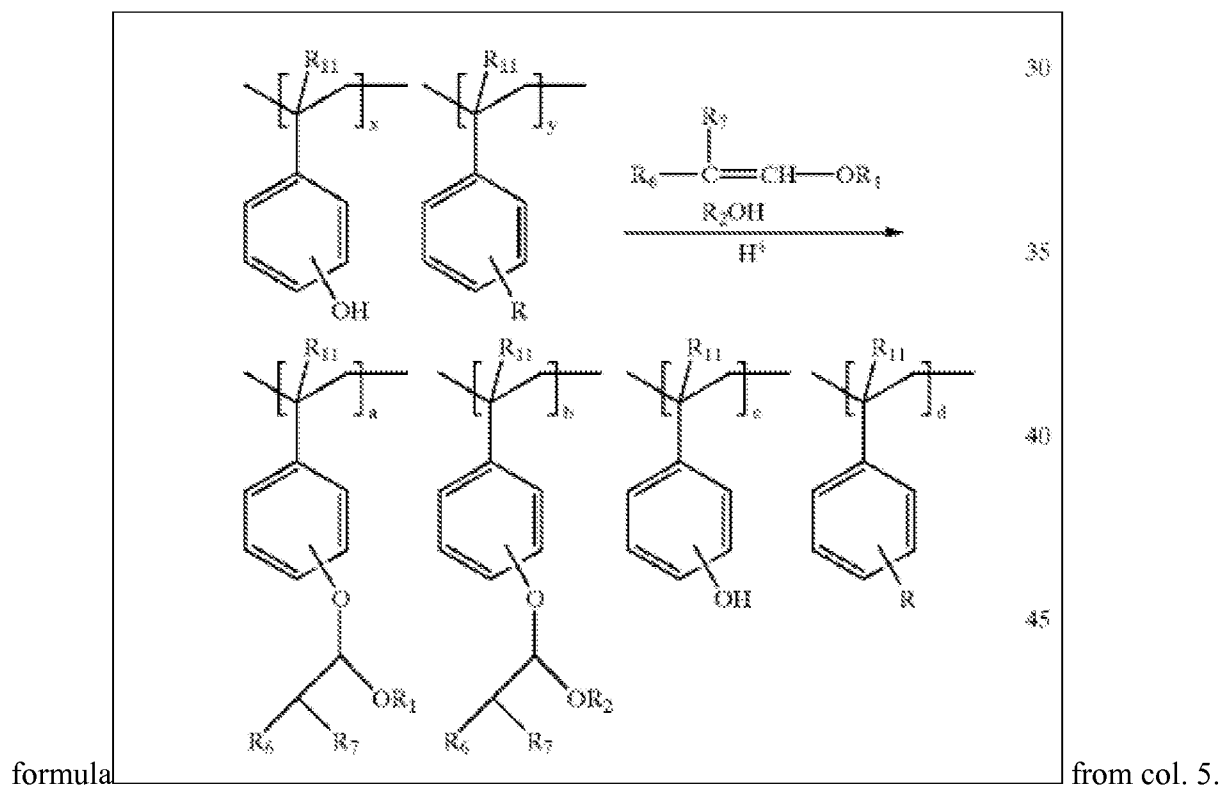
2. Claims 1, 6-11 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 17 said component A is a mixture of a polymer and a copolymer, but in claim 1 upon which claim 17 depends through claim 16 identifies said resin component (A) as "...is a polymer...". The use of "is" indicates a group of choices for the resin component (A) and can be considered closed language as in "R is a, b c or d". See MPEP 2173.05 (h), I. Markush groups. Applicants need to make clear in their claim language in claim 1 if resin component (A) "is" a polymer or is "comprised of" a polymer. The use of "is" indicates closed alternative language while "comprised of" is a transitional phrase indicating other

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members can be present. See particularly MPEP 211.03. Thus, because of the addition of another component beyond the polymer of claim 1 to the resin component (A) in claim 17, the meaning of said resin component (A) as "...is a polymer..." in claim 1 is confusing. Do applicants in claims 1, 6-11 and 15-16 mean to include all other possible addition to resin component (A) in these invention, or do they mean to add only the copolymer in claim 17 yet keep the resin component (A) a closed group? If the first is true then the wording is confusing because of the use of "is". If the second is true then the objection to claim 17 above is correct and claim 17 needs to be written as an independent claim or the other component added to the resin component (A) needs to be taken out and made into a new resin component in claim 17 so as not to broaden the scope of claim 1.

3. Claims 1 and 6-11, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (6,133,412) in view of Malik et al (SPIE Vol. 3678). With respect to instant claims 1 and 6-11 and 16-17, Malik et al (6,133,412) teach the instant compositions with the exception of showing a working example with the specific polymer used in a specific composition and using mixtures of such polymers. However, Malik et al (6,133,412) make polymers as examples which read on the instant polymers used in Examples 12, 13, 17 and 29 and disclose the use of species wherein R<sub>2</sub> of Malik et al is naphthyl, naphthyl ethyl or from nopol which is a polycyclic aliphatic alcohol cited in col. 6, lines 51-65 in the

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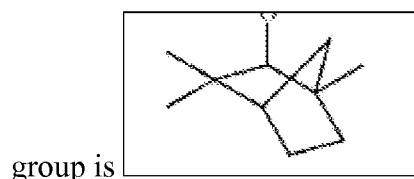
The only polymers made which fit the instant polymer also fit the required instant polydispersity and molecular weight. Mixtures of these polymers are also taught by Malik et al (6,133,412) in col. 6-7, The use of amines such as triisopropylamine are taught in col. 15, lines 39-55 and the process of imaging compositions with these polymers in col. 16 of Malik et al (6,133,412) teach all of the instant invention with respect to these species of polymers for the tailoring of photoresists by mixing acetals. The use of naphthyl or nopyl groups for reducing volatility and contamination of the optics as well as improving etch resistance as taught by Malik et al (SPIE VOL. 3678) to form part of the mixture of Malik et al (6,133,412) would have been prima facie obvious. As to the use of mixtures of such polymers as found in Malik et al (6,133,412), the polymer mixture of instant claim 17 is comprised of a polymer comprised of two groups and a copolymer consisting essentially of three units. The polymer by description and the copolymer

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by description overlap. The use of "mixture" requires that two different polymers need to be used, but there is no requirement that the difference be outside that set forth by Malik et al (6,133,412). The use of mixtures of polymers which are within the description of polymer in Malik et al (6,133,412) would be the combination of prior art element according to known methods to yield predictable results.

4. Applicant's arguments filed 19 June 2008 have been fully considered but they are not persuasive. Applicants argue that because X has as one member of its group of choices an "adamantyl group and that the oxygen atom in the general formula (II) is bonded at the 1-position of the adamantyl group as X" that all of the scope of the claimed invention is outside of that found in Malik et al (6,133,412) in view of Malik et al (SPIE Vol. 3678). The examiner notes that the last two lines of claim 1 have also as members of the X variable, "aliphatic polycyclic groups or aromatic polycyclic hydrocarbon groups. These groups are still made prima facie obvious over the prior art of Malik et al (6,133,412) in view of Malik et al (SPIE Vol. 3678). Applicants need to reconsider the claim language submitted on 19 June 2008 if they intended the groups of "aliphatic polycyclic groups or aromatic polycyclic hydrocarbon groups" for X to be cancelled, as this did not occur. Applicants did not limit claim 1 to that of claim 15.

5. Claims 1 and 10-11 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Adams et al (US 2003/0232273 A1). With respect to claims 1 and 10-11, Example 1 of Adams et al anticipates the instant composition and method wherein the aliphatic polycyclic hydrocarbon



“A generic claim cannot be allowed to an applicant if the prior

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art discloses a species falling within the claimed genus.” The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989). With respect to claim 10, the composition of Example 1 of Adams et al inherently has the ability to be used in a method of forming resist patterns comprising an exposure step that used an electron beam. The species anticipated is that wherein “aliphatic polycyclic group” is selected for X. Adams et al does not disclose the X being attached at the 1 adamantyl group at the oxygen atom.

6. Claims 1 and 6-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al (US 2003/0232273 A1). With respect to instant claims 1 and 6-8 and 10-11, Adams et al teaches species of the instant invention in the Adams et al Example 1 with the exception of explicit examples enumerating molecular weight, percentages of acid labile groups and polydispersity. However, Adams et al teaches in [0038] weight average molecular weight in preferred ranges either completely within that of the instant invention or overlapping that of the instant invention and molecular weight distribution, i.e. polydispersity, overlapping or within the range of the instant invention. Adams et al teaches in [0039] the acid labile groups being in overlapping percentage of that of the instant invention for their polymers. With respect to instant claims 1 and 6-8 and 10-11, the use of polymeric resins in Example 1 of Adams et al within the preferred ranges of acid labile groups, molecular weight distribution, i.e. polydispersity, and weight average molecular weight taught by Adams et al would have been the prima facie obvious as suggested by Adams et al. The species made prima facie obvious is that wherein “aliphatic polycyclic group” is selected for X. Adams et al does not disclose the X being attached at the 1 adamantyl group at the oxygen atom.

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7. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Claims 1, 6-11 and 15-17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and applicants amended all claims to the limit of X is an adamantyl group and the oxygen atom in the general formula (II) is bonded at the 1-position of the adamantyl group with the understanding that “at the 1-position of the adamantyl group” means at a bridgehead carbon of the adamantyl ring structure. The examiner accepts that workers of ordinary skill in the art would read the 1 position being at a bridgehead carbon.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Hamilton/  
Primary Examiner, Art Unit 1795

October 7, 2008